

**IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE**

INVENSAS CORPORATION and TESSERA )	
ADVANCED TECHNOLOGIES, INC., )	
) )	
Plaintiffs, ) )	C.A. No. _____
) )	
v. ) )	JURY TRIAL DEMANDED
) )	
NVIDIA CORPORATION, ) )	
) )	
Defendant. ) )	

**COMPLAINT FOR PATENT INFRINGEMENT**

Plaintiffs Invensas Corporation and Tessera Advanced Technologies, Inc. (collectively “Plaintiffs”) bring this complaint for patent infringement against Defendant NVIDIA Corporation (“NVIDIA” or “Defendant”). Plaintiffs, on personal knowledge as to their own acts, and on information and belief as to all others based on investigation, allege as follows:

**NATURE OF THE ACTION**

1. This is a civil action for infringement of United States Patent Nos. 6,232,231 (“the ’231 patent”), 6,849,946 (“the ’946 patent”), 7,064,005 (“the ’005 patent”), 6,317,333 (“the ’333 patent”), and 5,666,046 (“the ’046 patent”) (collectively, the “Asserted Patents”) under the patent laws of the United States, 35 U.S.C. § 1, *et seq.*

**THE PARTIES**

2. Plaintiff Invensas Corporation is a Delaware corporation with its principal place of business at 3025 Orchard Parkway, San Jose, California 95134.

3. Plaintiff Tessera Advanced Technologies, Inc. is a Delaware corporation with its principal place of business at 3025 Orchard Parkway, San Jose, California 95134.

4. Defendant NVIDIA Corporation is a Delaware corporation with its principal place of business at 2788 San Tomas Expressway, Santa Clara, California 95051. NVIDIA may be served through its registered agent, Corporation Service Company, 251 Little Falls Drive, Wilmington, Delaware 19808.

**JURISDICTION AND VENUE**

5. The Court has subject matter jurisdiction over the matters pleaded herein under 28 U.S.C. §§ 1331 and 1338(a) and the patent laws of the United States, 35 U.S.C. § 1, *et seq.*

6. The Court has personal jurisdiction over NVIDIA at least because NVIDIA is organized and exists under the laws of the State of Delaware. On information and belief, NVIDIA has regularly and systematically transacted business in and with residents of the State of Delaware, directly or through intermediaries, and/or committed acts of infringement in the State of Delaware as alleged more particularly below. NVIDIA has also placed infringing products into the stream of commerce by shipping those products into the State of Delaware or by knowing that the products would be shipped into the State of Delaware. Plaintiffs' causes of action arise, at least in part, from NVIDIA's contacts with and activities in the State of Delaware.

7. Venue is proper in this judicial district pursuant to 28 U.S.C. §§ 1400 and 1391(b) and (c) because NVIDIA, as a Delaware corporation, resides in this judicial district. In addition, NVIDIA has committed acts of infringement in the State of Delaware, including by selling and distributing infringing products in the State of Delaware.

**NVIDIA'S INFRINGING PRODUCTS AND ACTIVITIES**

8. NVIDIA is a global supplier of graphics processing units ("GPUs") and system-on-a-chip processors (SoCs) that incorporate GPUs and multi-core CPUs to drive supercomputing. *See* 2018 NVIDIA Form 10-K, p. 23. NVIDIA's two reportable segments, GPU and Tegra Processor, are based on a single underlying graphics architecture. *See id.* NVIDIA's

GPU and Tegra SoC platforms serve many markets, from consumer PC gaming to enterprise workstations to government and cloud service provider datacenters. *See id.*, p. 9.

The screenshot shows a section titled "Our Businesses" from NVIDIA's 2018 Form 10-K. It states that the two reportable segments - GPU and Tegra Processor - are based on a single underlying architecture. The GPU segment includes GeForce for PC gaming and mainstream PCs, GeForce NOW for cloud-based game-streaming service, Quadro for design professionals, Tesla for AI utilizing deep learning and accelerated computing, GRID to provide the power of NVIDIA graphics through the cloud and datacenters, DGX for AI scientists, researchers and developers, and Cryptocurrency-specific GPUs. The Tegra Processor segment includes Tegra processors for branded platforms like DRIVE and SHIELD, DRIVE automotive supercomputers, SHIELD devices and services for mobile-cloud entertainment, AI and gaming, and Jetson TX 2 as a power-efficient AI computing platform for embedded use.

*Source:* 2018 NVIDIA Form 10-K, p. 5.

9. NVIDIA does not directly manufacture semiconductor wafers used for its products. Instead, NVIDIA utilizes a “fabless” manufacturing strategy, whereby NVIDIA employs third party suppliers for wafer fabrication, assembly, testing, and packaging. *See* 2018 NVIDIA Form 10-K, p. 9. This allows NVIDIA to “focus [its] resources on product design, additional quality assurance, marketing, and customer support.” *Id.* On information and belief, the bulk of NVIDIA’s semiconductor wafers are fabricated by Taiwan Semiconductor Manufacturing Company Limited (“TSMC”).

10. For fiscal years 2013 through 2018, NVIDIA reported global revenues of more than \$34 billion. On information and belief, a substantial portion of this revenue is attributable to infringing sales made in the United States, including, without limitation: (a) NVIDIA products sold directly to consumers and companies in the United States; (b) NVIDIA products sold abroad

and with knowledge that those products would be incorporated in finished products and then imported into the United States for sale and/or use; and (c) NVIDIA products nominally sold abroad but for which substantial activities underlying the sales transactions (e.g., design-win activities, negotiations, testing, qualification) take place in the United States.

11. NVIDIA acknowledges that for products not sold directly to consumers, “achieving design wins is an important success factor.” 2018 NVIDIA Form 10-K, p. 14. “Achieving design wins may involve a lengthy process in pursuit of a customer opportunity and depend on our ability to anticipate features and functionality that customers and consumers will demand.” *Id.* To that end, NVIDIA has deemed it critical to employ sales teams with “a high level of technical expertise and product and industry knowledge to support the competitive and complex design win process,” along with a “highly skilled team of application engineers to assist our Channel in designing, testing, and qualifying system designs that incorporate our products.” 2016 NVIDIA Form 10-K, p. 7. On information and belief, the sales teams and application engineers referenced in NVIDIA’s Form 10-K filing are located primarily in the United States.

12. NVIDIA also works in collaboration with industry leaders to develop products: “We invest significant resources in the development of relationships with industry leaders, often assisting these companies in the product definition of their new products. We believe that forming these relationships and utilizing next-generation development tools to design, simulate and verify our products will help us remain at the forefront of visual computing and develop products that utilize leading-edge technology on a rapid basis.” 2017 NVIDIA Form 10-K, p. 10.

13. NVIDIA designs, makes, uses, sells, offers for sale, and/or imports into the United States, and provides support for 40nm Fermi GPUs, including products with the part name or number GF100, GF104, GF106, GF108, GF110, GF114, GF116, GF117, GF118, and

GF119 (the “40nm Fermi GPUs”). On information and belief, NVIDIA 40nm Fermi GPUs are made using TSMC’s 40nm manufacturing technology, and therefore include the same or similar structures and features. On information and belief, NVIDIA 40nm Fermi GPUs are incorporated in products that are designed, made, used, sold, offered for sale, and/or imported into the United States, including, for example, graphics cards and/or gaming laptops sold by Acer, ASUS, Lenovo, and MSI and the following NVIDIA products:

C2070 GPU Computing Module	GeForce GT 620	GeForce GTX 675M
C2075 GPU Computing Module	GeForce GT 620M	GeForce GTX465
GeForce 410M	GeForce GT 625	GeForce GTX470
GeForce 510	GeForce GT 625M	GeForce GTX480
GeForce 605	GeForce GT 630	GeForce GTX480M
GeForce 610M	GeForce GT 630M	M2050 GPU Module
GeForce 710M	GeForce GT 635M	M2070 GPU Computing
GeForce 720M	GeForce GT 640	Module
GeForce 810M	GeForce GT 640M LE	M2090 GPU Computing
GeForce 820M	GeForce GT 645	Module
GeForce GT 415M	GeForce GT 705	Quadro 1000M
GeForce GT 420	GeForce GT 730	Quadro 2000
GeForce GT 420M	GeForce GTS 450	Quadro 3000M
GeForce GT 425M	GeForce GTX 460	Quadro 4000
GeForce GT 430	GeForce GTX 460 SE	Quadro 4000M
GeForce GT 435M	GeForce GTX 460M	Quadro 5000
GeForce GT 440	GeForce GTX 470M	Quadro 5000M
GeForce GT 445M	GeForce GTX 485M	Quadro 500M
GeForce GT 520	GeForce GTX 550 Ti	Quadro 5010M
GeForce GT 520M	GeForce GTX 555	Quadro 600
GeForce GT 520MX	GeForce GTX 560	Quadro 6000
GeForce GT 525M	GeForce GTX 560 SE	Quadro 7000
GeForce GT 530	GeForce GTX 560 Ti	Quadro NVS 315
GeForce GT 540M	GeForce GTX 560M	Quadro Plex 7000
GeForce GT 545	GeForce GTX 570	S2050 GPU Computing
GeForce GT 550M	GeForce GTX 570M	Server
GeForce GT 555M	GeForce GTX 580	S2070 GPU Computing
GeForce GT 610	GeForce GTX 580M	Server
	GeForce GTX 590	
	GeForce GTX 670M	

14. NVIDIA designs, makes, uses, sells, offers for sale, and/or imports into the United States, and provides support for 28nm Kepler GPUs, including products with the part

name or number GK104, GK106, GK107, GK110, and GK208 (the “28nm Kepler GPUs”). On information and belief, NVIDIA 28nm Kepler GPUs are made using TSMC’s 28nm manufacturing technology, and therefore include the same or similar structures and features. On information and belief, NVIDIA 28nm Kepler GPUs are incorporated in products that are designed, made, used, sold, offered for sale, and/or imported into the United States, including, for example, graphics cards and/or gaming laptops sold by Acer, ASUS, Lenovo, and MSI and the following NVIDIA products:

GeForce 825M	GeForce GTX 670	K20 GPU Accelerator
GeForce 920M	GeForce GTX 680	K20X GPU Accelerator
GeForce GT 630	GeForce GTX 690	K40 GPU Accelerator
GeForce GT 635	GeForce GTX 760	Quadro 410
GeForce GT 640	GeForce GTX 760 Ti	Quadro K1000M
GeForce GT 640M	GeForce GTX 760M	Quadro K1100M
GeForce GT 640M LE	GeForce GTX 765M	Quadro K2000
GeForce GT 645M	GeForce GTX 770	Quadro K2000D
GeForce GT 650M	GeForce GTX 770M	Quadro K2000M
GeForce GT 660M	GeForce GTX 780	Quadro K2100M
GeForce GT 710	GeForce GTX 780 Ti	Quadro K3000M
GeForce GT 720	GeForce GTX 780M	Quadro K3100M
GeForce GT 720M	GeForce GTX 860M	Quadro K4000
GeForce GT 730	GeForce GTX 870M	Quadro K4000M
GeForce GT 730M	GeForce GTX 880M	Quadro K4100M
GeForce GT 735M	GeForce GTX TITAN	Quadro K420
GeForce GT 740	GeForce GTX TITAN	Quadro K4200
GeForce GT 740M	Black	Quadro K5000
GeForce GT 745M	GeForce GTX TITAN Z	Quadro K5000M
GeForce GT 750M	GeForce GTX 670MX	Quadro K500M
GeForce GT 755M	GeForce GTX 675MX	Quadro K5100M
GeForce GTX 645	GeForce GTX 680M	Quadro K510M
GeForce GTX 650	GeForce GTX 680MX	Quadro K5200
GeForce GTX 650 Ti	GRID K1	Quadro K600
GeForce GTX 650 Ti	GRID K2	Quadro K6000
Boost	GRID K340	Quadro K610M
GeForce GTX 660	GRID K520	Quadro NVS 510
GeForce GTX 660 Ti	K10 GPU Accelerator	

15. NVIDIA designs, makes, uses, sells, offers for sale, and/or imports into the United States, and provides support for 28nm Maxwell GPUs, including products with the part

name or number GM107, GM108, GM200, GM204, and GM206 (the “28nm Maxwell GPUs”).

On information and belief, NVIDIA 28nm Maxwell GPUs are made using TSMC’s 28nm manufacturing technology, and therefore include the same or similar structures and features. On information and belief, NVIDIA 28nm Maxwell GPUs are incorporated in products that are designed, made, sold, offered for sale, and/or imported into the United States, including, for example, graphics cards and/or gaming laptops sold by Acer, ASUS, Lenovo, and MSI and the following NVIDIA products:

GeForce 840M	GeForce GTX 970	Quadro K620
GeForce 845M	GeForce GTX 970M	Quadro M1000M
GeForce 930M	GeForce GTX 980	Quadro M1200
GeForce 940M	GeForce GTX 980 Ti	Quadro M2000
GeForce GT 945A	GeForce GTX 980	Quadro M2000M
GeForce GTX 745	GeForce GTX 980M	Quadro M2200
GeForce GTX 750	GeForce GTX TITAN X	Quadro M500M
GeForce GTX 750 Ti	GeForce MX110	Quadro M520
GeForce GTX 850M	GeForce MX130	Quadro M6000
GeForce GTX 860M	M10 GPU Accelerator	Quadro M600M
GeForce GTX 950	M4 GPU Accelerator	Quadro M620
GeForce GTX 950M	M40 GPU Accelerator	Quadro NVS 810
GeForce GTX 960	Quadro K1200	Jetson Nano
GeForce GTX 960M	Quadro K2200	
GeForce GTX 965M	Quadro K2200M	

16. NVIDIA designs, makes, uses, sells, offers for sale, and/or imports into the United States, and provides support for 16nm Pascal GPUs, including products with the part name or number GP100, GP102, GP104, and GP106 (the “16nm Pascal GPUs”). On information and belief, NVIDIA 16nm Pascal GPUs are made using TSMC’s 16nm manufacturing technology, and therefore include the same or similar structures and features. On information and belief, NVIDIA 16nm Pascal GPUs are incorporated in products that are designed, made, used, sold, offered for sale, and/or imported into the United States, including, for example, graphics

cards and/or gaming laptops sold by Acer, ASUS, Lenovo, and MSI and the following NVIDIA products:

GeForce GTX 1060	GeForce GTX 1080 Ti	Quadro P4000
GeForce GTX 1060 Max-Q	NVIDIA TITAN X	Quadro P4000 Max-Q
GeForce GTX 1070	NVIDIA TITAN Xp	Quadro P4200
GeForce GTX 1070 Max-Q	P100 GPU Accelerator	Quadro P5000
GeForce GTX 1070 Ti	P4 GPU Accelerator	Quadro P5200
GeForce GTX 1080	P40 GPU Accelerator	Quadro P6000
GeForce GTX 1080 Max-Q	P6 GPU Accelerator	Jetson TX2
	Quadro GP100	
	Quadro P3000	
	Quadro P3200	

17. NVIDIA designs, makes, uses, sells, offers for sale, and/or imports into the United States, and provides support for 28nm Tegra K1 SoCs, including products with the part name or number T124 and T132 (the “28nm Tegra K1 SoCs”). The 28nm Tegra K1 SoCs feature, among other things, a 28nm Kepler GPU. On information and belief, NVIDIA 28nm Tegra K1 SoCs are made using TSMC’s 28nm manufacturing technology, and therefore include the same or similar structures and features. On information and belief, NVIDIA 28nm Tegra K1 SoCs are incorporated in products that are designed, made, used, sold, offered for sale, and/or imported into the United States, including, for example, the NVIDIA SHIELD Tablet, Acer Chromebook 13, Google Nexus 9, Lenovo ThinkVision 28, and Google Project Tango Tablet.

18. NVIDIA designs, makes, uses, sells, offers for sale, and/or imports into the United States, and provides support for 20nm Tegra X1 SoCs, including products with the part name or number T210 and NX (the “20nm Tegra X1 SoCs”). The 20nm Tegra X1 SoCs feature, among other things, a 20nm Maxwell GPU. On information and belief, NVIDIA 20nm Tegra X1 SoCs are made using TSMC’s 20nm manufacturing technology, and therefore include the same or similar structures and features. On information and belief, NVIDIA 20nm Tegra X1 SoCs are

incorporated in products that are designed, made, used, sold, offered for sale, and/or imported into the United States, including, for example, the NVIDIA SHIELD TV, NVIDIA SHIELD Tablet, NVIDIA DRIVE CX & PX, Google Pixel C, and Nintendo Switch.

19. NVIDIA designs, makes, uses, sells, offers for sale, and/or imports into the United States, and provides support for the Tesla GPUs, including products with the part name or number Tesla P100 and Tesla V100 that are made using TSMC's Chip-on-Wafer-on-Substrate ("CoWoS") technology (the "CoWoS GPUs"). On information and belief, NVIDIA CoWoS GPUs include the same or similar structures and features. On information and belief, NVIDIA CoWoS GPUs are incorporated in products that are designed, made, used, sold, offered for sale, and/or imported into the United States, including, for example, the NVIDIA DGX-1 and DGX-2 supercomputers and data center products provided by Acer, ASUSTek Computer, Cisco, Dell, Fujitsu, Google, Lenovo, Penguin Computing, and Supermicro, among others. *See, e.g.*, <https://www.nvidia.com/en-us/data-center/where-to-buy-tesla/>.

#### **CLAIMS FOR PATENT INFRINGEMENT**

20. Plaintiffs incorporate by reference the allegations set forth in paragraphs 1 through 19 as though fully set forth herein.

21. The allegations provided below are exemplary and without prejudice to Plaintiffs' infringement contentions provided pursuant to the Court's scheduling order and local rules. In providing these allegations, Plaintiffs do not convey or imply any particular claim constructions or the precise scope of the claims. Plaintiffs' claim construction contentions regarding the meaning and scope of the claim terms will be provided under the Court's scheduling order and local rules.

**COUNT I**  
**INFRINGEMENT OF U.S. PATENT NO. 6,232,231**

22. Plaintiffs incorporate by reference the allegations set forth in paragraphs 1 through 21 as though fully set forth herein.

23. On May 15, 2001, the United States Patent and Trademark Office (“USPTO”) duly and legally issued the ’231 patent, titled “Planarized Semiconductor Interconnect Topography and Method For Polishing a Metal Layer To Form Interconnect,” naming Anantha R. Sethuraman and Christopher A. Seams as inventors. A true and correct copy of the ’231 patent is attached hereto as Exhibit A.

24. Invensas owns the entire right, title, and interest in and to the ’231 patent, including the right to sue and recover damages, including damages for past infringement.

25. Plaintiffs have complied with applicable requirements of 35 U.S.C. § 287(a), which entitles Plaintiffs to receive damages for past infringement.

26. By at least December 2, 2014, Plaintiffs disclosed the existence of the ’231 patent to NVIDIA and explained, in the form of claim charts, how certain exemplary NVIDIA devices infringe one or more claims of the ’231 patent. Thus, since at least December 2, 2014, NVIDIA has had knowledge of the ’231 patent and that its activities infringe the ’231 patent. In addition, since at least December 2, 2014, NVIDIA has known or should have known that its customers, distributors, and other purchasers of the ’231 Accused Products were infringing the ’231 patent.

27. NVIDIA has infringed, directly and/or indirectly, either literally or under the doctrine of equivalents, at least claim 1 of the ’231 patent in violation of at least 35 U.S.C. § 271(b) and/or (g) by making, having made, using, selling, offering for sale, and/or importing into the United States products that infringe the ’231 patent.

28. Based on the information presently available, Plaintiffs allege that NVIDIA’s 40nm Fermi GPUs, 28nm Kepler GPUs, 28nm Maxwell GPUs, 16nm Pascal GPUs, 28nm Tegra K1 SoCs, and 20nm Tegra X1 SoCs are exemplary devices that infringe at least claim 1 of the ’231 patent. The infringing products identified in this paragraph, all NVIDIA products that are substantially similar to these products, and products containing the same are referred to collectively as the “’231 Accused Products.” Plaintiffs make this preliminary identification of infringing products and infringed claims without the benefit of discovery or claim construction in this action, and expressly reserve the right to supplement and revise this identification of infringing products based on additional information obtained through discovery or otherwise.

29. On information and belief, the ’231 Accused Products meet each and every limitation of at least claim 1 of the ’231 patent.

30. Claim 1 of the ’231 patent recites a “method for providing a substantially planar semiconductor topography which extends above a plurality of electrically conductive features that form an integrated circuit[.]” On information and belief, the ’231 Accused Products comprise a substantially planar semiconductor topography that extends above a plurality of electrically conductive features that form an integrated circuit. For example, the ’231 Accused Products comprise a substantially planar layer extending over a layer below that contains a plurality of electrically conductive features that form an integrated circuit.

31. Claim 1 of the ’231 patent requires “etching a plurality of laterally spaced dummy trenches into a dielectric layer between a first trench and a series of second trenches[.]” On information and belief, the ’231 Accused Products comprise semiconductor chips that are made by a process that includes etching a plurality of laterally spaced dummy trenches into a dielectric layer between a first trench and a series of second trenches. For example, the ’231 Accused

Products comprise multiple dummy trenches laterally spaced between a first interconnect and a series of second interconnects, each of which was formed in part by etching trenches into a layer of insulating material.

32. Claim 1 of the '231 patent further requires that "a lateral dimension of said first trench is greater than a lateral dimension of said second trenches[.]" On information and belief, the lateral dimension of a first trench is greater than a lateral dimension of a series of second trenches (i.e., the first trench is wider than at least one of the second trenches) in the '231 Accused Products. For example, the width of the first trench is greater than the width of one or more of the second trenches.

33. Claim 1 of the '231 patent further requires "filling said dummy trenches and said first and second trenches with a conductive material[.]" On information and belief, in the '231 Accused Products, the first, second, and dummy trenches are filled with a conductive material. For example, the first interconnect, second interconnects, and dummy connectors are formed from copper that was filled into trenches etched into the insulating layer.

34. Claim 1 of the '231 patent further requires "polishing said conductive material to form dummy conductors exclusively in said dummy trenches and interconnect exclusively in said first and second trenches[.]" On information and belief, in the '231 Accused Products, the interconnects and dummy conductors are made by a process that includes polishing the conductive material deposited in the first, second, and dummy trenches until the conductive material is exclusively in those trenches (i.e., the conductive material in the first, second, and dummy trenches has been polished such that the copper in the dummy trenches does not connect to the copper in either of the first or second trenches). For example, copper deposited in the

dummy trenches has been polished so that it is separate from the copper deposited in the first and second trenches.

35. Claim 1 of the '231 patent further requires "said dummy conductors are electrically separate from said plurality of electrically conductive features and co-planar with said interconnect." On information and belief, in the '231 Accused Products, the dummy conductors are co-planar with the interconnect and electrically separate from the plurality of electrically conductive features. For example, the upper surfaces of the interconnects are coplanar with the upper surfaces of the dummy conductors, and the dummy conductors are electrically separate from the active or passive electrical components below the dummy conductors.

36. NVIDIA has imported into the United States, or offered to sell, sell, or used within the United States, the '231 Accused Products, knowing that such products are made by a process covered by at least claim 1 of the '231 patent, in violation of 35 U.S.C. § 271(g). For example, NVIDIA has offered to sell the '231 Accused Products in the United States through NVIDIA's online store, <https://web.archive.org/web/20150506105821/http://www.geforce.com/hardware> (archived: May 6, 2015), and, on information and belief, through domestic retailers such as Best Buy. The infringing semiconductor chips of the '231 Accused Products are neither materially changed by subsequent processes nor become trivial and nonessential components of another product.

37. NVIDIA has actively, knowingly, and intentionally induced infringement of at least claim 1 of the '231 patent in violation of 35 U.S.C. § 271(b). On information and belief, NVIDIA, knowing its products infringe the '231 patent and with the specific intent for others to infringe the '231 patent, has actively encouraged third parties, including OEMs, ODMs, system

builders, add-in board manufacturers (“AIBs”), automotive suppliers, and retailers/distributors, to sell, offer for sale, use, and/or import into the United States, without license or authority, ’231 Accused Products and/or products containing ’231 Accused Products made by a process patented in the United States. For example, NVIDIA published and provided marketing materials, technical specifications, datasheets, user manuals, and development and testing resources on its website (<http://www.nvidia.com/>) that instructed and encouraged third parties to integrate the ’231 Accused Products into products sold, offered for sale, used, and/or imported into the United States and encouraged NVIDIA’s customers to purchase and use those products in the United States. *E.g.*, <https://web.archive.org/web/20150506104826/http://www.geforce.com/hardware/compare-buy-gpus> (archived: May 6, 2015); <https://web.archive.org/web/20150821070328/http://www.nvidia.com/object/tegra.html> (archived: August 21, 2015). NVIDIA has also established the “NVIDIA Partner Network” to assist customers with marketing, training, sales and distribution, and service and support. *E.g.*, <https://web.archive.org/web/20150819100649/http://www.nvidia.com/object/nvidia-partner-network.html> (archived: August 19, 2015). These activities were designed to bring NVIDIA’s infringing products to market in the United States.

38. Plaintiffs are entitled to recover from NVIDIA all damages that Plaintiffs have sustained as a result of NVIDIA’s infringement of the ’231 patent, including, without limitation, not less than a reasonable royalty.

39. NVIDIA’s infringement of the ’231 patent has been willful and deliberate, entitling Plaintiffs to enhanced damages and attorneys’ fees.

**COUNT II**  
**INFRINGEMENT OF U.S. PATENT NO. 6,849,946**

40. Plaintiffs incorporate by reference the allegations set forth in paragraphs 1 through 39 as though fully set forth herein.

41. On February 1, 2005, the USPTO duly and legally issued the '946 patent, titled "Planarized Semiconductor Interconnect Topography and Method For Polishing a Metal Layer To Form Interconnect," naming Anantha R. Sethuraman and Christopher A. Seams as inventors. A true and correct copy of the '946 patent is attached hereto as Exhibit B.

42. Invensas owns the entire right, title, and interest in and to the '946 patent, including the right to sue and recover damages, including damages for past infringement.

43. Plaintiffs have complied with applicable requirements of 35 U.S.C. § 287(a), which entitles Plaintiffs to receive damages for past infringement.

44. By at least December 2, 2014, Plaintiffs disclosed the existence of the '946 patent to NVIDIA and explained, in the form of claim charts, how certain exemplary NVIDIA devices infringe one or more claims of the '946 patent. Thus, since at least December 2, 2014, NVIDIA has had knowledge of the '946 patent and that its activities infringe the '946 patent. In addition, since at least December 2, 2014, NVIDIA has known or should have known that its customers, distributors, and other purchasers of the '946 Accused Products were infringing the '946 patent.

45. NVIDIA has infringed, directly and/or indirectly, either literally or under the doctrine of equivalents, at least claim 16 of the '946 patent in violation of at least 35 U.S.C. § 271(a) and/or (b) by making, having made, using, selling, offering for sale, and/or importing into the United States products that infringe the '946 patent.

46. Based on the information presently available to it, Plaintiffs allege that NVIDIA's 40nm Fermi GPUs, 28nm Kepler GPUs, 28nm Maxwell GPUs, 16nm Pascal GPUs, 28nm Tegra K1 SoCs, and 20nm Tegra X1 SoCs are exemplary devices that infringe at least claim 16 of the '946 patent. The infringing products identified in this paragraph, all NVIDIA products that are substantially similar to these products, and products containing the same are referred to

collectively as the “‘946 Accused Products.” Plaintiffs make this preliminary identification of infringing products and infringed claims without the benefit of discovery or claim construction in this action, and expressly reserve the right to augment, supplement, and revise this identification of infringing products based on additional information obtained through discovery or otherwise.

47. Claim 16 of the ‘946 patent recites “[a] substantially planar semiconductor topography[.]” On information and belief, the ‘946 Accused Products comprise a substantially planar semiconductor topography. For example, the upper surfaces of the first trench, plurality of laterally spaced dummy trenches, series of second trenches, and the dielectric layer are substantially planar.

48. Claim 16 of the ‘946 patent requires “a plurality of laterally spaced dummy trenches in a dielectric layer, between a first trench and a series of second trenches[.]” On information and belief, the ‘946 Accused Products comprise a plurality of laterally spaced dummy trenches in a dielectric layer between a first trench and a series of second trenches. For example, there are multiple laterally spaced dummy trenches in insulating material that are between a first relatively wide trench and a series of second relatively narrow trenches.

49. Claim 16 of the ‘946 patent further requires that “each of the second trenches is relatively narrow compared to the first trench” and “a lateral dimension of at least one of the laterally spaced dummy trenches is less than a lateral dimension of the first trench and greater than a lateral dimension of at least one of the series of second trenches[.]” On information and belief, the second trenches in the ‘946 Accused Products are relatively narrow compared to the first trench (i.e., each of the relatively narrow trenches is narrower than the relatively wide trench), and a lateral dimension of at least one of the laterally spaced dummy trenches is less than a lateral dimension of the first trench and greater than a lateral dimension of at least one of

the series of second trenches. For example, the width of one or more of the dummy trenches is less than the width of the relatively wide trench, and greater than the width of one or more of the relatively narrow trenches.

50. Claim 16 of the '946 patent further requires "dummy conductors in said laterally spaced dummy trenches and electrically separate from electrically conductive features below said dummy conductors[.]" On information and belief, in the '946 Accused Products, dummy conductors in the laterally spaced dummy trenches are electrically separate from electrically conductive features below the dummy conductors. For example, the copper-based dummy conductors in the dummy trenches are electrically separate from the copper-based conductive lines in the first trench and the series of second trenches, and from active or passive electrical components below the dummy conductors.

51. Claim 16 of the '946 patent further requires "conductive lines in said series of second trenches and said first trench, wherein upper surfaces of said conductive lines are substantially coplanar with dummy conductor upper surfaces." On information and belief, the upper surfaces of the conductive lines in the '946 Accused Products are substantially coplanar with the dummy conductor upper surfaces. For example, the upper surfaces of the copper-based interconnects are substantially coplanar with the upper surfaces of the dummy conductors.

52. NVIDIA has actively, knowingly, and intentionally induced infringement of at least claim 16 of the '946 patent in violation of 35 U.S.C. § 271(b). On information and belief, NVIDIA, knowing its products infringe the '946 patent and with the specific intent for others to infringe the '946 patent, has actively encouraged third parties, including OEMs, ODMs, system builders, add-in board manufacturers ("AIBs"), and retailers/distributors, to sell, offer for sale, use, and/or import into the United States, without license or authority, '946 Accused Products

and/or products containing '946 Accused Products. For example, NVIDIA published and provided marketing materials, technical specifications, datasheets, user manuals, and development and testing resources on its website (<http://www.nvidia.com/>) that instructed and encouraged third parties to integrate the '946 Accused Products into products sold, offered for sale, used, and/or imported into the United States and encouraged NVIDIA's customers to purchase and use those products in the United States. *E.g.*, <https://web.archive.org/web/20150506104826/http://www.geforce.com/hardware/compare-buy-gpus> (archived: May 6, 2015); <https://web.archive.org/web/20150821070328/http://www.nvidia.com/object/tegra.html> (archived: August 21, 2015). NVIDIA has also established the "NVIDIA Partner Network" to assist customers with marketing, training, sales and distribution, and service and support. *E.g.*, <https://web.archive.org/web/20150819100649/http://www.nvidia.com/object/nvidia-partner-network.html> (archived: August 19, 2015). These activities were designed to bring NVIDIA's infringing products to market in the United States.

53. Plaintiffs are entitled to recover from NVIDIA all damages that Plaintiffs have sustained as a result of NVIDIA's infringement of the '946 patent, including, without limitation, not less than a reasonable royalty.

54. NVIDIA's infringement of the '946 patent has been willful and deliberate, entitling Plaintiffs to enhanced damages and attorneys' fees.

**COUNT III**  
**INFRINGEMENT OF U.S. PATENT NO. 7,064,005**

55. Plaintiffs incorporate by reference the allegations set forth in paragraphs 1 through 54 as though fully set forth herein.

56. On June 20, 2006, the USPTO duly and legally issued the '005 patent, titled "Semiconductor Apparatus and Method of Manufacturing Same," naming Yuji Takaoka as the inventor. A true and correct copy of the '005 patent is attached hereto as Exhibit C.

57. Tessera Advanced Technologies, Inc. owns the entire right, title, and interest in and to the '005 patent, including the right to sue and recover damages, including damages for past infringement.

58. Plaintiffs have complied with applicable requirements of 35 U.S.C. § 287(a), which entitles Plaintiffs to receive damages for past infringement.

59. Since at least the filing of this Complaint, NVIDIA has had knowledge of the '005 patent and that its activities infringe the '005 patent. In addition, since at least the filing of this Complaint, NVIDIA has known or should have known that its customers, distributors, and other purchasers of the '005 Accused Products are infringing the '005 patent.

60. NVIDIA has infringed, either literally or under the doctrine of equivalents, at least claim 1 of the '005 patent in violation of at least 35 U.S.C. § 271(b) and/or (g) by making, having made, using, selling, offering for sale, and/or importing into the United States products that infringe the '005 patent.

61. Based on the information presently available to it, Plaintiffs allege that NVIDIA's CoWoS GPUs, including the Tesla P100 and Tesla V100, are exemplary devices that infringe at least claim 1 of the '005 patent. The infringing products identified in this paragraph, all NVIDIA products that are substantially similar to these products, and products containing the same are referred to collectively as the "'005 Accused Products." Plaintiffs make this preliminary identification of infringing products and infringed claims without the benefit of discovery or claim construction in this action, and expressly reserve the right to augment, supplement, and

revise this identification of infringing products based on additional information obtained through discovery or otherwise.

62. Claim 1 of the '005 patent recites a "method of manufacturing a semiconductor apparatus constituting a multichip module wherein a plurality of device chips are flip-chip mounted on an interposer substrate[.]" On information and belief, the '005 Accused Products comprise a semiconductor apparatus constituting a multichip module wherein a plurality of device chips are flip-chip mounted on an interposer substrate. For example, the '005 Accused Products comprise a passive silicon interposer with a GP100 chip and four memory stacks, each including a base die, flip-chip mounted on the interposer.

63. Claim 1 of the '005 patent requires "a first step for forming an embedded electrode by filling a contact hole penetrating through a wafer with conductor, said wafer being a base material of said interposer substrate[.]" On information and belief, the '005 Accused Products comprise an embedded electrode that was formed by filling a contact hole penetrating through a wafer with conductor, said wafer being a base material of said interposer substrate. For example, the '005 Accused Products comprise a passive silicon interposer that includes embedded electrodes passing through it. The passive silicon interposer was created from a wafer of silicon, the base material of the interposer substrate.

64. Claim 1 of the '005 patent further requires "a second step for forming wiring including a connection electrode connected to a first end of the embedded electrode and a connection electrode on which said device chips to be flip-chip mounted on a surface of said wafer[.]" On information and belief, the '005 Accused Products comprise wiring including a connection electrode connected to a first end of the embedded electrode and a connection electrode on which said device chips to be flip-chip mounted on a surface of said wafer. For

example, the '005 Accused Products comprise a passive silicon interposer that has wiring including a connection electrode on its upper surface (in the finished part) connected to an embedded electrode. The device chips are flip-chip mounted on the connection electrode.

65. Claim 1 of the '005 patent further requires "a third step for forming said interposer substrate by grinding and polishing a back surface of said wafer until a second end of said embedded electrode is exposed after said plurality of device chips are flip-chip mounted on said connection electrode formed in the second step[.]" On information and belief, the '005 Accused Products comprise an interposer substrate formed by grinding and polishing a back surface of said wafer until a second end of said embedded electrode is exposed after said plurality of device chips are flip-chip mounted on said connection electrode formed in the second step. For example, the '005 Accused Products comprise a passive silicon interposer that has been formed by grinding and polishing the lower surface (in the finished part) in order to expose the second end of the embedded electrode.

66. Claim 1 of the '005 patent further requires "a fourth step for providing a bump electrode on the second end of said embedded electrode exposed in the third step[.]" On information and belief, the '005 Accused Products comprise a bump electrode provided on the second end of said embedded electrode exposed by grinding and polishing. For example, the '005 Accused Products comprise a bump electrode on the end of the embedded electrode exposed on the lower surface (in the finished part) of the passive silicon interposer.

67. NVIDIA has imported into the United States, or offered to sell, sell, or used within the United States, the '005 Accused Products, knowing that such products are made by a process covered by at least claim 1 of the '005 patent, in violation of 35 U.S.C. § 271(g). For example, NVIDIA has offered to sell the '005 Accused Products in the United States through

NVIDIA's website, <https://www.nvidia.com/en-us/data-center/dgx-1> ("Order NVIDIA DGX Today"). The infringing semiconductor chips of the '005 Accused Products are neither materially changed by subsequent processes nor become trivial and nonessential components of another product.

68. Since at least the filing of this Complaint, NVIDIA has actively, knowingly, and intentionally induced infringement of at least claim 1 of the '005 patent in violation of 35 U.S.C. § 271(b). On information and belief, NVIDIA, knowing its products infringe the '005 patent and with the specific intent for others to infringe the '005 patent, has actively encouraged third parties, including OEMs, ODMs, system builders, add-in board manufacturers ("AIBs"), automotive suppliers, and retailers/distributors, to sell, offer for sale, use, and/or import into the United States, without license or authority, '005 Accused Products and/or products containing '005 Accused Products made by a process patented in the United States. For example, NVIDIA publishes and provides marketing materials, technical specifications, datasheets, user manuals, and development and testing resources on its website (<http://www.nvidia.com/>) that instruct and encourage third parties to integrate the '005 Accused Products into products sold, offered for sale, used, and/or imported into the United States and encourage NVIDIA's customers to purchase and use those products in the United States. *E.g.*, <https://www.nvidia.com/en-us/data-center/tesla-p100/>; <https://www.nvidia.com/en-us/data-center/tesla-v100/>. NVIDIA has also established the "NVIDIA Partner Network" to assist customers with marketing, training, sales and distribution, and service and support. *E.g.*, <https://www.nvidia.com/en-us/about-nvidia/partners/>. These activities are designed to bring NVIDIA's infringing products to market in the United States.

69. Plaintiffs are entitled to recover from NVIDIA all damages that Plaintiffs have sustained as a result of NVIDIA's infringement of the '005 patent, including, without limitation, not less than a reasonable royalty.

**COUNT IV**  
**INFRINGEMENT OF U.S. PATENT NO. 6,317,333**

70. Plaintiffs incorporate by reference the allegations set forth in paragraphs 1 through 69 as though fully set forth herein.

71. On November 13, 2001, the USPTO duly and legally issued the '333 patent, titled "Package Construction of Semiconductor Device," naming Shinji Baba as the inventor. A true and correct copy of the '333 patent is attached hereto as Exhibit D.

72. Tessera Advanced Technologies, Inc. owns the entire right, title, and interest in and to the '333 patent, including the right to sue and recover damages, including damages for past infringement.

73. Plaintiffs have complied with applicable requirements of 35 U.S.C. § 287(a), which entitles Plaintiffs to receive damages for past infringement.

74. By at least October 13, 2014, Plaintiffs disclosed the existence of the '333 patent to NVIDIA and explained, in the form of claim charts, how certain exemplary NVIDIA devices infringe one or more claims of the '333 patent. Thus, since at least October 13, 2014, NVIDIA has had knowledge of the '333 patent and that its activities infringe the '333 patent. In addition, since at least October 13, 2014, NVIDIA has known or should have known that its customers, distributors, and other purchasers of the '333 Accused Products were infringing the '333 patent.

75. NVIDIA has infringed, directly and/or indirectly, either literally or under the doctrine of equivalents, at least claim 1 of the '333 patent in violation of at least 35 U.S.C.

§ 271(a) and/or (b) by making, having made, using, selling, offering for sale, and/or importing into the United States products that infringe the '333 patent.

76. Based on the information presently available to it, Plaintiffs allege that NVIDIA's Tesla K10 Server Accelerator Card and Grid K2 Graphics Card, and MSI's GeForce GTX 750 Ti Graphics Card devices, are exemplary devices that infringe at least claim 1 of the '333 patent. The infringing products identified in this paragraph, all NVIDIA products that are substantially similar to these products, and products containing the same are referred to collectively as the "'333 Accused Products." Plaintiffs make this preliminary identification of infringing products and infringed claims without the benefit of discovery or claim construction in this action, and expressly reserve the right to augment, supplement, and revise this identification of infringing products based on additional information obtained through discovery or otherwise.

77. Claim 1 of the '333 patent requires "a ball grid array (BGA) substrate including an upper insulating layer comprising a plurality of laminated layers, an intermediate insulating layer, and a lower insulating layer comprising a plurality of laminated insulating layers[.]" On information and belief, the '333 Accused Products comprise a BGA substrate including an upper insulating layer comprising a plurality of laminated layers, an intermediate insulating layer, and a lower insulating layer comprising a plurality of laminated insulating layers. For example, the '333 Accused Products comprise a GPU semiconductor device in a BGA substrate package, wherein the BGA substrate includes an insulating core layer and upper and lower insulating layers, wherein each of the upper and lower insulating layers includes multiple laminated layers.

78. Claim 1 of the '333 patent further requires "a plurality of lines on top surfaces of the insulating layers included in each of the upper, intermediate, and lower layers, respectively[.]" On information and belief, the '333 Accused Products comprise a plurality of

lines on top surfaces of the insulating layers included in each of the upper, intermediate, and lower layers, respectively. For example, the '333 Accused Products comprise multiple interconnect traces located on the top surfaces of each of the upper insulating layer, intermediate core layer, and lower insulating layer.

79. Claim 1 of the '333 patent further requires "a plurality of solder balls disposed on an outermost surface of the lower insulating layer[.]" On information and belief, the '333 Accused Products comprise a plurality of solder balls disposed on an outermost surface of the lower insulating layer. For example, the '333 Accused Products comprise BGA solder balls arranged on a bottom surface of the lower insulating layer, which are used for soldering when mounting the package to a circuit board.

80. Claim 1 of the '333 patent further requires "a semiconductor chip having a plurality of electrodes connected to respective lines, the semiconductor chip being connected electrically to the plurality of solder balls through a plurality of via holes in each of the upper, lower, and intermediate insulating layers[.]" On information and belief, the '333 Accused Products comprise a semiconductor chip having a plurality of electrodes connected to respective lines, the semiconductor chip being connected electrically to the plurality of solder balls through a plurality of via holes in each of the upper, lower, and intermediate insulating layers. For example, the '333 Accused Products comprise a GPU semiconductor chip having a plurality of flip-chip solder bumps connected to interconnect traces, the semiconductor chip being electrically connected to the BGA solder balls through vias formed in each of the upper insulating layer, intermediate core layer, and lower insulating layer.

81. Claim 1 of the '333 patent further recites that "the intermediate insulating layer is a material having thermal expansion characteristics substantially matching thermal expansion

characteristics of a circuit board, the semiconductor device being mounted on the circuit board, and the upper and lower insulating layers have thermal expansion characteristics different from but similar to that of the intermediate insulating layer so that interlayer peeling of the BGA substrate is prevented[.]” On information and belief, the ’333 Accused Products comprise an intermediate insulating layer that is a material having thermal expansion characteristics substantially matching thermal expansion characteristics of a circuit board, the semiconductor device being mounted on the circuit board, and the upper and lower insulating layers having thermal expansion characteristics different from but similar to that of the intermediate insulating layer so that interlayer peeling of the BGA substrate is prevented. For example, the coefficient of thermal expansion (“CTE”) of the intermediate core layer substantially matches the CTE of the circuit board to which the semiconductor device is mounted, and the CTEs of the upper and lower build-up layers is different from but similar to the CTE of the intermediate core layer, which prevents interlayer peeling of the substrate.

82. NVIDIA has actively, knowingly, and intentionally induced infringement of at least claim 1 of the ’333 patent in violation of 35 U.S.C. § 271(b). On information and belief, NVIDIA, knowing its products infringe the ’333 patent and with the specific intent for others to infringe the ’333 patent, has actively encouraged third parties, including OEMs, ODMs, system builders, add-in board manufacturers (“AIBs”), and retailers/distributors, to make, have made, use, sell, offer for sale, and/or import into the United States, without license or authority, ’333 Accused Products and/or products containing ’333 Accused Products. For example, NVIDIA published and provided marketing materials, technical specifications, datasheets, user manuals, and development and testing resources on its website (<http://www.nvidia.com/>) that instructed and encouraged third parties to integrate the ’333 Accused Products into products sold, offered

for sale, used, and/or imported into the United States and encouraged NVIDIA's customers to purchase and use those products in the United States. *E.g.*, <http://web.archive.org/web/20150910180943/http://www.nvidia.com/object/grid-enterprise-resources.html#datasheets> (archived: Sept. 10, 2015); <http://web.archive.org/web/20150907121006/http://www.nvidia.com/object/tesla-supercomputing-solutions.html> (archived: Sept. 7, 2015). NVIDIA has also established the "NVIDIA Partner Network" to assist customers with marketing, training, sales and distribution, and service and support. *E.g.*, <https://web.archive.org/web/20150819100649/http://www.nvidia.com/object/nvidia-partner-network.html> (archived: August 19, 2015). These activities were designed to bring NVIDIA's infringing products to market in the United States.

83. Plaintiffs are entitled to recover from NVIDIA all damages that Plaintiffs have sustained as a result of NVIDIA's infringement of the '333 patent, including, without limitation, not less than a reasonable royalty.

84. NVIDIA's infringement of the '333 patent has been willful and deliberate, entitling Plaintiffs to enhanced damages and attorneys' fees.

**COUNT V**  
**INFRINGEMENT OF U.S. PATENT NO. 5,666,046**

85. Plaintiffs incorporate by reference the allegations set forth in paragraphs 1 through 84 as though fully set forth herein.

86. On September 9, 1997, the USPTO duly and legally issued the '046 patent, titled "Reference Voltage Circuit Having a Substantially Zero Temperature Coefficient," naming David Mietus as the inventor. A true and correct copy of the '046 patent is attached hereto as Exhibit E.

87. Tessera Advanced Technologies, Inc. owns the entire right, title, and interest in and to the '046 patent, including the right to sue and recover damages, including damages for past infringement.

88. Plaintiffs have complied with applicable requirements of 35 U.S.C. § 287(a), which entitles Plaintiffs to receive damages for past infringement.

89. By at least February 11, 2015, Plaintiffs disclosed the existence of the '046 patent to NVIDIA and explained, in the form of claim charts, how certain exemplary NVIDIA devices infringe one or more claims of the '046 patent. Thus, since at least February 11, 2015, NVIDIA has had knowledge of the '046 patent and that its activities infringe the '046 patent. In addition, since at least February 11, 2015, NVIDIA has known or should have known that its customers, distributors, and other purchasers of the '046 Accused Products were infringing the '046 patent.

90. NVIDIA has infringed, directly and/or indirectly, either literally or under the doctrine of equivalents, at least claim 20 of the '046 patent in violation of at least 35 U.S.C. § 271(a) and/or (b) by making, having made, using, selling, offering for sale, and/or importing into the United States products that infringe the '046 patent.

91. Based on the information presently available to it, Plaintiffs allege that NVIDIA's Kepler GK107 GPU and Tegra 3 devices are exemplary devices that infringe at least claim 20 of the '046 patent. The infringing products identified in this paragraph, all NVIDIA products that are substantially similar to these products, and products containing the same are referred to collectively as the "'046 Accused Products." Plaintiffs make this preliminary identification of infringing products and infringed claims without the benefit of discovery or claim construction in this action, and expressly reserve the right to augment, supplement, and revise this identification of infringing products based on additional information obtained through discovery or otherwise.

92. Claim 20 of the '046 patent requires "a method for generating an output voltage having a substantially zero temperature coefficient[.]" On information and belief, the '046 Accused Products comprise a method for generating an output voltage having a substantially zero temperature coefficient.

93. Claim 20 of the '046 patent requires "generating a first current having a positive temperature coefficient in accordance with a voltage difference across a set of p-n junctions[.]" On information and belief, the '046 Accused Products comprise generating a first current having a positive temperature coefficient in accordance with a voltage difference across a set of p-n junctions. For example, the '046 Accused Products comprise a first current generation circuit using two p-n junctions having different areas to generate a current having a positive temperature coefficient.

94. Claim 20 of the '046 patent requires "generating a second current having a negative temperature coefficient in accordance with a voltage across a p-n junction of the set of p-n junctions[.]" On information and belief, the '046 Accused Products comprise generating a second current having a negative temperature coefficient in accordance with a voltage across a p-n junction of the set of p-n junctions. For example, the '046 Accused Products comprise a second current generation circuit that uses one of the p-n junctions from the first current generation circuit to generate a current having a negative temperature coefficient.

95. Claim 20 of the '046 patent requires "summing the first and second currents to provide an output current having a substantially zero temperature coefficient[.]" On information and belief, the '046 Accused Products comprise summing the first and second currents to provide an output current having a substantially zero temperature coefficient. For example, the two

currents generated in the '046 Accused Products flow into a common node (are summed together) to generate an output current that has a substantially zero temperature coefficient.

96. Claim 20 of the '046 patent requires “using the output current to generate the output voltage.” On information and belief, the '046 Accused Products comprise using the output current to generate the output voltage. For example, the output current in the '046 Accused Products flows through resistors to generate the output voltage.

97. NVIDIA has actively, knowingly, and intentionally induced infringement of at least claim 20 of the '046 patent in violation of 35 U.S.C. § 271(b). On information and belief, NVIDIA, knowing its products infringe the '046 patent and with the specific intent for others to infringe the '046 patent, actively encouraged third parties, including OEMs, ODMs, system builders, add-in board manufacturers (“AIBs”), and retailers/distributors, to make, have made, use, sell, offer for sale, and/or import into the United States, without license or authority, '046 Accused Products and/or products containing '046 Accused Products. For example, NVIDIA published and provided marketing materials, technical specifications, datasheets, user manuals, and development and testing resources on its website (<http://www.nvidia.com/>) that instructed and encouraged third parties to integrate the '046 Accused Products into products sold, offered for sale, used, and/or imported into the United States and encouraged NVIDIA’s customers to purchase and use those products in the United States. *E.g.*, <https://web.archive.org/web/20150301012331/http://www.nvidia.com/object/tegra-3-processor.html> (archived: March 1, 2015); <https://web.archive.org/web/20150224072906/http://www.geforce.com/hardware/desktop-gpus/geforce-gtx-650> (archived: Feb. 24, 2015). NVIDIA also established the “NVIDIA Partner Network” to assist customers with marketing, training, sales and distribution, and service and support. *E.g.*, <https://web.archive.org/web/20150228130644/http://www.nvidia.com/object/>

[nvidia-partner-network.html](#) (archived: Feb. 28, 2015). These activities were designed to bring NVIDIA's infringing products to market in the United States.

98. Plaintiffs are entitled to recover from NVIDIA all damages that Plaintiffs have sustained as a result of NVIDIA's infringement of the '046 patent, including, without limitation, not less than a reasonable royalty.

99. NVIDIA's infringement of the '046 patent has been willful and deliberate, entitling Plaintiffs to enhanced damages and attorneys' fees.

**JURY DEMAND**

100. Plaintiffs demand a jury trial as to all issues that are triable by a jury in this action.

**PRAYER FOR RELIEF**

WHEREFORE, Plaintiffs respectfully pray for relief as follows:

- (a) Judgment that NVIDIA is liable for infringement and/or inducing infringement of one or more claims of the Asserted Patents;
- (b) Compensatory damages in an amount according to proof, and in any event no less than a reasonable royalty;
- (c) Treble damages for willful infringement pursuant to 35 U.S.C. § 284;
- (d) Pre-judgment interest;
- (e) Post-judgment interest;
- (f) Attorneys' fees based on this being an exceptional case pursuant to 35 U.S.C. § 285, including pre-judgment interest on such fees;
- (g) An accounting and/or supplemental damages for all damages occurring after any discovery cutoff and through final judgment;
- (h) Costs and expenses; and
- (i) Any and all other relief that the Court deems just and proper.

Dated: May 8, 2019

Respectfully submitted,

FARNAN LLP

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*/s/ Michael J. Farnan*

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